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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

MAILED

Application Number: 09/825,661
Filing Date: April 03, 2001
Appellant(s): MOGUL, JEFFREY C.

APR 10 2006

Technology Center 2100

Jody C. Bishop
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/20/2006 appealing from the Office action mailed 8/17/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

DRP Consortium ("The HTTP Distribution and Replication Protocol,"

<http://www.DRP.org/TR/NOTE>, August 25, 1997.) (hereinafter DRP) in view of He (US 5,734,898) (hereinafter He).

3. As for claims 1, 5, 10, 14, 19 and 20, DRP discloses a method for reducing network latency, comprising the steps of:

sending a request for a data object to a server (section 2.3, first paragraph, "A DRP index ...that are specified."; section 2.4, Content-ID Header Field);

receiving a header portion of a response to said request (section 2.1, last paragraph, "A content identifier... in the URI specification."; section 2.4, Content-ID Header Field);

parsing said header portion for a digest value (section 2.4, Content-ID Header Field, parsing is inherent for removing the digest value from the header string so that it can then be used in the comparison);

comparing said digest value to a digest index (section 2.3, Index Caching, "An HTTP proxy... protocol specification."; section 2.4, third paragraph, "Note that a client... from different hosts."; section 2.4, Content-ID Header Field);

retrieving a cached data object from a cache if said digest value has a match in said digest index (section 2.4, third paragraph, "Note that a...from different hosts.");

sending said cached data object to a client (section 2.4, third paragraph, "Note that a... from different hosts."; section 2.6, "An HTTP proxythe differential reply.").

4. Although obvious to one of ordinary skill in the art and arguably inherent to DRP, DRP does not explicitly disclose informing the server to stop sending a remaining portion of said response (thereby terminating the connection with the server). He teaches informing the server to stop sending a remaining portion of said response for the purpose of preventing the download of a file already stored in the cache (col. 3, lines 32-40, "Fig. 20 shows... of communication line."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify DRP by informing the server to stop sending a remaining portion of said response for the purpose of preventing the download of a file already stored in the cache, as taught by He. The Examiner also

notes that this step would occur in response to determining that the digest value has a match in the index. See also the Response to Arguments below.

5. As for claims 2 and 11, DRP discloses the method of claims 1 and 10, further comprising the steps of:

checking said cache for said data object before sending the request to said server (section 2.4, third paragraph, "Note that a...from different hosts."); and
sending said data object to said client if said data object is found in said cache (section 2.4, third paragraph, "Note that a...from different hosts.").

6. As for claims 3 and 12, DRP discloses the method of claims 1 and 10 wherein said digest index is a hash table (the index of DRP is inherently a hash table because it allows for accessing records using a digest value; see cited webopedia.com definition; sections 2.1-2.2, "The DRP protocol... set of files:").

7. As for claims 4 and 13, DRP discloses the method of claims 1 and 10, further comprising the steps of:

receiving said remaining portion of said response from said server if no match for said digest value is found in said digest index based on said comparing step (section 2.4, paragraphs 1-4, "By requesting an ...to be different."); and
sending said remaining portion of said response to said client (section 2.4, paragraphs 1-4, "By requesting an ...to be different.").

8. As for claims 6 and 15, DRP discloses a method for reducing network latency, comprising the steps of:

sending a request for a data object to a server (section 2.3, first paragraph, "A DRP index ...that are specified.");

receiving a server response from said server (section 2.3, second paragraph, "The index file... such as a database.");

calculating a digest value for said data object based on said server response (section 2.1, Content Identifiers, "The DRP protocol... the URI specification."; section 2.4, Content-ID Header Field, "Now that it... content was returned.");

sending a response to a client cache starting with a header portion, said header portion including said digest value and enabling said client cache to compare said digest value to a digest index, retrieve a cached data object from said client cache if said digest value has a match in said digest index, and send said cached data object to a client (section 2.1, last paragraph, "A content identifier... in the URI specification."; section 2.4, paragraphs 1-4, "By requesting an... to be different.").

9. Although obvious to one of ordinary skill in the art and arguably inherent to DRP, DRP does not explicitly disclose informing the server to stop sending a remaining portion of said response. He teaches informing the server to stop sending a remaining portion of said response for the purpose of preventing the download of a file already stored in the cache (col. 3, lines 32-40, "Fig. 20 shows ...of communication line."). It would have been obvious to one of ordinary skill in the art at the time of the invention to

modify DRP by informing the server to stop sending a remaining portion of said response for the purpose of preventing the download of a file already stored in the cache, as taught by He.

10. As for claims 7 and 16, DRP discloses a method for reducing network retrieval latency, comprising the steps of:

receiving a first request for a data object (section 2.3, first paragraph, "A DRP index ...that are specified.");

obtaining a digest value of said requested data object (section 2.1, Content Identifiers, "The DRP protocol ...the URI specification.");

inserting said digest value into a header portion of a response (section 2.1, last paragraph, "A content identifier... in the URI specification.");

sending said response, starting with said header portion (section 2.3, paragraphs 1-3, "A DRP index... client up-to-date.").

11. Although obvious to one of ordinary skill in the art and arguably inherent to DRP, DRP does not explicitly disclose informing the server to stop sending a remaining portion of said response. He teaches informing the server to stop sending a remaining portion of said response for the purpose of preventing the download of a file already stored in the cache (col. 3, lines 32-40, "Fig. 20 shows... of communication line."). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify DRP by informing the server to stop sending a remaining portion of said

response for the purpose of preventing the download of a file already stored in the cache, as taught by He.

12. As for claims 8 and 17, DRP discloses the method of claims 7 and 16, wherein said obtaining includes the step of:

retrieving said digest value from a hash table (the index of DRP inherently comprises a hash table, see cited webopedia.com definition; section 2.2, "To describe... set of files:").

13. As for claims 9 and 18, DRP discloses the method of claims 7 and 16, wherein said obtaining includes the step of:

calculating said digest value based on contents of said data object (section 2.1, Content Identifiers, "The DRP protocol... the URI specification.").

Response to Arguments

14. Applicant's arguments filed **6/6/05** have been fully considered but they are not persuasive. In particular, Applicant asserts on pg. 10 of the Remarks that DRP fails to disclose the server sending, in response to a client request, a digest for the current request and making the comparison at the client or proxy cache. The Examiner respectfully disagrees. On page 10, Applicant lists three methods for comparing digest values taught by DRP. The Examiner agrees that DRP teaches these methods, but finds that DRP also teaches at least one additional method not listed by Applicant. In

particular, the passage on the Content Identifier Field within section 2.4 discloses that the client first sends a GET request to the server. DRP further recites that, "The content identifier of the returned file should be included in the HTTP reply header using the Content-1I) header field." Note that the client identifier is equivalent to the recited digest value. Therefore, DRP explicitly contemplates receiving a header portion that includes a digest value in response to a client request. The parsing step is inherent for extracting the digest for comparison. It is further clear from the proceeding passages (Section 2.4, third paragraph; Section 2.3, Index Caching) that the extracted content identifier may be compared to a cached index file that was previously retrieved from the same or a different site in order to avoid duplicate downloading.

Applicant further asserts that DRP fails to disclose retrieving the content from a cache if the digest value has a match in the index, stating that using the DRP scheme, "the content-ID that is compared against the index for a site is not included in a header response to a request for an object." The Examiner respectfully disagrees. First, the Examiner notes that a primary purpose of DRP is to avoid redundant downloads of content that has already been cached. In particular, the third paragraph of Section 2.4 discusses using content identifiers to avoid downloading files for a second time. In the case where the content identifier is not known before-hand (e.g. such as when requesting data from a new site), the content identifier would be included in the response from the server. Although DRP discloses that the content identifier may in some cases be known prior to the request and therefore compared to the cache *before* sending the request to the server, DRP further recites, "If no content identifier is

specified in the HTTP GET request, then the server should return the current version of the file... However, the reply should always include the Content-ID field if the correct content identifier is known....". Thus, DRP explicitly contemplates that the content identifier may also be retrieved from the server and compared after retrieval. In cases where the retrieved content identifier matches content already stored in the cache, the cached content would be used.

Furthermore, in order to avoid the redundant download, DRP would inherently have to cancel the request. If the request were not cancelled, then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express purpose of stopping the transmission (i.e. stopping sending the remaining portion of the response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of the claims.

Applicant makes analogous arguments with respect to independent claims 6, 7, 10, 15 and 16. These claims are properly rejected for the same reasons cited above

with respect to claim 1.

For all of these reasons, claims 1-18 are properly rejected under 35 USC 103(a).

(10) Response to Argument

A. Rejection of Independent Claim 1 and Dependent Claims 2-3 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 8 of the Brief that DRP does not teach parsing a received header portion of a response for a digest value.

Examiner's Response: The Examiner respectfully disagrees. The passage on the Content-ID Header Field in section 2.4 of DRP explicitly discloses that the client first sends a GET request to the server. DRP further recites that "The content identifier of the returned file should be included in the HTTP reply header using the Content-ID header field." Note that the content identifier is equivalent to the claimed digest value. Therefore, DRP explicitly contemplates receiving a header portion that includes a digest value in response to a client request. The passages on the Content-ID Header Field in section 2.4 of DRP, which recite in part:

It is the responsibility of the client to verify that the reply contains the correct content identifier if a Content-ID field is present in the reply. When the requested content identifier contains a verifiable checksum URN, the client should always recompute the checksum to verify that the correct content was returned.

These passages explicitly teach parsing the received header portion of a response for a digest value.

(2) Appellant's Argument: Appellant asserts on page 8 of the Brief that DRP does

not teach comparing the digest value to a digest index.

Examiner's Response: The Examiner respectfully disagrees. On section 2.3 of DRP discloses a particular relevant embodiment, which recites in part:

Once the initial download is complete, a client can update the content by downloading a new version of the index, and **comparing it against the previous version of the index**. Because each file entry in the index has a content identifier, the client can determine which files have changed and so determine the minimal set of files that need to be downloaded in order to bring the client up-to-date.

This embodiment explicitly teaches the extracted content identifier is compared to a cached index file that previously retrieved from the same or different site in order to avoid duplicate downloading (also see Differential-ID Header Field in section 2.5 of DRP which recites "a client can use the index obtained from a server to determine what changes have occurred in a set of files").

(3) Appellant's Argument: Appellant asserts on page 8 of the Brief that DRP does not teach retrieving a cached data object from a cache if the digest value has a match in the digest index.

Examiner's Response: The Examiner respectfully disagrees. As detailed in the Final Office Action, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache, and when content identifiers match multiple redundant downloads can be avoided. In the case where the content identifier is not known before-hand (e.g. such as when requesting data from a new site), the content identifier would be included in the

response from the server. Thus, DRP explicitly contemplates that the content identifier is retrieved from the server and compared after retrieval. In cases where the retrieved content identifier matches content already stored in the cache, the cached content would be used.

(4) Appellant's Argument: Appellant asserts on page 9 of the Brief that in no case of DRP does a server send, in response to client request for content, a digest for the current request, and the digest comparison is then made at the client or proxy cache.

Examiner's Response: Contrary to Appellant's assertions, Claim 1 does not recite "a server send, in response to client request for content, a digest for the current request, and the digest comparison is then made at the client or proxy cache". See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Although claim 1 does not clearly show who sends a digest value and who compares the digest value, DRP explicitly discloses on the Content-ID Header Field in section 2.4 that the client first sends a GET request to the server. DRP further recites that "The content identifier of the returned file should be included in the HTTP reply header using the Content-ID header field", and on HTTP/1.1 Proxy Caching in section 2.7 of DRP recites that "the server can use the vary filed in the HTTP reply which should be set to "Content-ID"... Here is an example of a reply which includes a Content-ID:

HTTP/1.1 200 OK

Vary: Content-ID

Content-ID: urn:md5: PEFjWBDv/sd9alS9ByuX0w==

Note that the content identifier is equivalent to the claimed digest value. Therefore, DRP explicitly contemplates receiving a header portion that includes a digest value in response to a client request.

With respect to the argument “the digest comparison is then made at the client or proxy cache”, on section 2.3 of DRP discloses a particular relevant embodiment, which recites in part:

Once the initial download is complete, **a client** can update the content by downloading a new version of the index, and **comparing it against the previous version of the index**. Because each file entry in the index has a content identifier, the client can determine which files have changed and so determine the minimal set of files that need to be downloaded in order to bring the client up-to-date.

This embodiment explicitly teaches that at the client, the extracted content identifier is compared to a cached index file that previously retrieved from the same or different site in order to avoid duplicate downloading (also see Differential-ID Header Field in section 2.5 of DRP recites “a client can use the index obtained from a server to determine what changes have occurred in a set of files”).

(5) Appellant’s Argument: Appellant asserts on page 10 of the Brief that DRP does not teach or suggest a client requesting an object, receiving a response to that request where the response includes a header having a digest value, and comparing the digest value against an index to determine if the requested object is in the cache.

Examiner’s Response: The Examiner respectfully disagrees. In response to the

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appellant's argument that DRP fails to show "a client requesting an object", the Examiner finds the features on the Content-ID Header Field in section 2.4 of DRP explicitly discloses that the client first sends a GET request to the server ("when requesting a file, the client can include the content identifier in the HTTP GET request to the server... For example: GET /Example/home.html HTTP/1.1 Content-ID: urn:md5:PEFjWBDv/sd9alS9ByuX0w==").

In response to the appellant's argument that DRP fails to show "receiving a response to that request where the response includes a header having a digest value", the Examiner finds the features in DRP. DRP recites that "The content identifier of the returned file should be included in the HTTP reply header using the Content-ID header field." Note that the content identifier is equivalent to the claimed digest value.

Therefore, DRP explicitly contemplates receiving a header portion that includes a digest value in response to a client request. In addition, the passage on the Content-ID Header Field in section 2.4 of DRP explicitly discloses that the client first sends a GET request to the server. DRP further recites that "The content identifier of the returned file should be included in the HTTP reply header using the Content-ID header field", and on HTTP/1.1 Proxy Caching in section 2.7 of DRP recites that "the server can use the vary field in the HTTP reply which should be set to "Content-ID"... Here is an example of a reply which includes a Content-ID:

HTTP/1.1 200 OK

Vary: Content-ID

Content-ID: urn:md5: PEFjWBDv/sd9alS9ByuX0w==

Note that the content identifier is equivalent to the claimed digest value. Therefore, DRP explicitly contemplates receiving a header portion that includes a digest value in response to a client request.

In response to the appellant's argument that DRP fails to show "comparing the digest value against an index to determine if the requested object is in the cache". The Examiner finds the features on section 2.3 of DRP discloses a particular relevant embodiment, which recites in part:

Once the initial download is complete, a client can update the content by downloading a new version of the index, and **comparing it against the previous version of the index**. Because each file entry in the index has a content identifier, the client can determine which files have changed and so determine the minimal set of files that need to be downloaded in order to bring the client up-to-date.

This embodiment explicitly teaches the extracted content identifier is compared to a cached index file that previously retrieved from the same or different site in order to avoid duplicate downloading (also Differential-ID Header Field in section 2.5 of DRP recites "a client can use the index obtained from a server to determine what changes have occurred in a set of files").

(6) Appellant's Argument: Appellant asserts on page 14 of the Brief that DRP does not inform the server to stop sending a remaining portion of the response.

Examiner's Response: As detailed in the Final Office Action, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a

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second time if the file is already in the cache. DRP would inherently have to cancel the request in order to avoid the redundant download. If the request were not cancelled, then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express purpose of stopping the transmission (i.e. stopping sending the remaining portion of the response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of the claims.

Claims 2 and 3 are properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 1.

For all of these reasons, claims 1-3 are properly rejected under 35 USC 103(a).

B. Rejection of Dependent Claim 4 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 17 of the Brief that dependent claim 4 is allowable over the applied combination of DRP and He at least for the

reasons discussed above with claim 1.

Examiner's Response: Claim 4 is properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 1.

(2) Appellant's Argument: Appellant asserts on page 17 of the Brief that claim 4 further recites "receiving said remaining portion of said response from said server if no match for said digest value is found in said digest index based on said comparing step".

Examiner's Response: As discussed above with claim 1, DRP explicitly teaches performing the comparing step for a digest value received in a response. DRP further teaches receiving said remaining portion of said response from said server if no match for said digest value is found in said digest index based on said comparing step (section 2.7, HTTP/1.1 Proxy Caching, "when the Content-ID is omitted, the proxy will not match the request and will contact server each time"; section 2.4, paragraphs 1-4, "By requesting an...to be different.>").

For all of these reasons, claim 4 is properly rejected under 35 USC 103(a).

C. Rejection of Dependent Claim 5 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 18 of the Brief that dependent claim 5 is allowable over the applied combination of DRP and He at least for the reasons discussed above with claim 1.

Examiner's Response: Claim 5 is properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 1.

(2) Appellant's Argument: Appellant asserts on page 18 of the Brief that neither DRP nor He teaches or suggests informing a server to stop sending a remaining portion of a response.

Examiner's Response: As discussed above with claim 1, DRP explicitly teaches informing a server to stop sending a remaining portion of a response. Thus, claim 5 is properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 1.

For all of these reasons, claim 5 is properly rejected under 35 USC 103(a).

D. Rejection of Dependent Claim 19 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 18 of the Brief that dependent claim 19 is allowable over the applied combination of DRP and He at least for the reasons discussed above with claim 1.

Examiner's Response: Claim 19 is properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 1.

(2) Appellant's Argument: Appellant asserts on page 18 of the Brief that neither reference teaches or suggests performing such informing "responsive to determining said digest value has a match in said digest index".

Examiner's Response: As discussed above with claim 1, DRP explicitly teaches informing a server to stop sending a remaining portion of a response. Thus, claim 19 is

properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 1.

For all of these reasons, claim 19 is properly rejected under 35 USC 103(a).

E. Rejection of Independent Claim 6 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 19 of the Brief that DRP does not teach "sending a response to a client cache starting with a header portion".

Examiner's Response: As discussed above with claim 1, DRP teaches sending a response to a client cache starting with a header portion. On the Content-ID Header Field in section 2.4 of DRP that the client first sends a GET request to the server. DRP further recites that "The content identifier of the returned file should be included in the HTTP reply header using the Content-ID header field", and on HTTP/1.1 Proxy Caching in section 2.7 of DRP recites that "the server can use the vary field in the HTTP reply which should be set to "Content-ID"... Here is an example of a reply which includes a Content-ID:

HTTP/1.1 200 OK

Vary: Content-ID

Content-ID: urn:md5: PEFjWBDv/sd9aIS9ByuX0w==

Note that the content identifier is equivalent to the claimed digest value. Therefore, DRP explicitly contemplates receiving a header portion that includes a digest value in response to a client request.

(2) Appellant's Argument: Appellant asserts on page 19 of the Brief that DRP does not teach "said header portion including said digest value".

Examiner's Response: As discussed above with claim 1, DRP teaches said header portion including said digest value. DRP further recites that "The content identifier of the returned file should be included in the HTTP reply header using the Content-ID header field", and on HTTP/1.1 Proxy Caching in section 2.7 of DRP recites that "the server can use the vary filed in the HTTP reply which should be set to "Content-ID"... Here is an example of a reply which includes a Content-ID:

HTTP/1.1 200 OK

Vary: Content-ID

Content-ID: urn:md5: PEFjWBDv/sd9alS9ByuX0w==

Note that the content identifier is equivalent to the claimed digest value. Therefore, DRP explicitly contemplates the header portion that includes a digest value.

(3) Appellant's Argument: Appellant asserts on page 19 of the Brief that DRP does not teach "enabling said client cache to compare said digest value to a digest value".

Examiner's Response: As discussed above with claim 1, DRP teaches said enabling said client cache to compare said digest value to a digest value. On section 2.3 of DRP discloses a particular relevant embodiment, which recites in part:

Once the initial download is complete, a client can update the content by downloading a new version of the index, and **comparing it against the**

previous version of the index. Because each file entry in the index has a content identifier, the client can determine which files have changed and so determine the minimal set of files that need to be downloaded in order to bring the client up-to-date.

This embodiment explicitly teaches the extracted content identifier is compared to a cached index file that previously retrieved from the same or different site in order to avoid duplicate downloading (also see Differential-ID Header Field in section 2.5 of DRP recites “a client can use the index obtained from a server to determine what changes have occurred in a set of files”).

(4) Appellant’s Argument: Appellant asserts on page 19 of the Brief that DRP does not teach “retrieve a cached data object from said client cache if said digest value has a match in said digest index”.

Examiner’s Response: As discussed above with claim 1, DRP teaches retrieve a cached data object from said client cache if said digest value has a match in said digest index. On third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache, and when content identifiers match multiple redundant downloads can be avoided. In the case where the content identifier is not known before-hand (e.g. such as when requesting data from a new site), the content identifier would be included in the response from the server. Thus, DRP explicitly contemplates that the content identifier is retrieved from the server and compared after retrieval. In cases where the retrieved content identifier matches content already stored in the cache, the cached content would be used.

(5) Appellant's Argument: Appellant asserts on page 19 of the Brief that DRP does not teach "send said cached data object to a client".

Examiner's Response: DRP discloses sending said cached data object to a client (the local cache provides the data object if the data object is already in the cache; section 2.4, third paragraph; section 2.6 HTTP Proxy Caching).

(6) Appellant's Argument: Appellant asserts on page 19 of the Brief that neither DRP nor He teaches or suggests "upon receiving a message from said client cache to stop sending said response, stopping the sending of said response".

Examiner's Response: As discussed above with claim 1, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache. DRP would inherently have to cancel the request in order to avoid the redundant download. If the request were not cancelled, then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express purpose of stopping the transmission (i.e. stopping sending the remaining portion of the

response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of the claims.

For all of these reasons, claim 6 is properly rejected under 35 USC 103(a).

F. Rejection of Independent Claim 7 and Dependent Claims 8-9 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 20 of the Brief that neither DRP nor He teaches or suggests "upon receiving a message from said client cache to stop sending said response, stopping the sending of said response".

Examiner's Response: As detailed in the Final Office Action, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache. DRP would inherently have to cancel the request in order to avoid the redundant download. If the request were not cancelled, then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express

purpose of stopping the transmission (i.e. stopping sending the remaining portion of the response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of the claims.

Claims 8 and 9 are properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 7.

For all of these reasons, claims 7-9 are properly rejected under 35 USC 103(a).

G. Rejection of Independent Claim 10 and Dependent Claims 11-12 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 20 of the Brief that DRP does not teach or suggest including a digest value in a header portion of a response to a client where a cached data object is retrieved from cache if the digest value has a match in the digest index.

Examiner's Response: As discussed above with claim 1, DRP teaches said header portion including said digest value. DRP further recites that "The content identifier of the returned file should be included in the HTTP reply header using the Content-ID header field", and on HTTP/1.1 Proxy Caching in section 2.7 of DRP recites that "the server can use the vary filed in the HTTP reply which should be set to "Content-ID"... Here is an example of a reply which includes a Content-ID:

HTTP/1.1 200 OK
Vary: Content-ID

Content-ID: urn:md5: PEFjWBDv/sd9aIS9ByuX0w==

Note that the content identifier is equivalent to the claimed digest value. Therefore, DRP explicitly contemplates the header portion that includes a digest value. Furthermore, as discussed above with claim 1, DRP teaches retrieve a cached data object from said client cache if said digest value has a match in said digest index. On third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache, and when content identifiers match multiple redundant downloads can be avoided. In the case where the content identifier is not known before-hand (e.g. such as when requesting data from a new site), the content identifier would be included in the response from the server. Thus, DRP explicitly contemplates that the content identifier is retrieved from the server and compared after retrieval. In cases where the retrieved content identifier matches content already stored in the cache, the cached content would be used.

(2) Appellant's Argument: Appellant asserts on page 21 of the Brief that neither DRP nor He teaches or suggests "logic code for informing said server to stop sending a remaining portion of said response".

Examiner's Response: As discussed above with claim 1, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache. DRP would inherently have to cancel the request in order to avoid the redundant download. If the request were not cancelled,

then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express purpose of stopping the transmission (i.e. stopping sending the remaining portion of the response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of the claims.

Claims 11 and 12 are properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 10.

For all of these reasons, claims 10-12 are properly rejected under 35 USC 103(a).

H. Rejection of Dependent Claim 13 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 22 of the Brief that dependent claim 13 is allowable over the applied combination of DRP and He at least for the reasons discussed above with claim 10.

Examiner's Response: Claim 13 is properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 10.

(2) Appellant's Argument: Appellant asserts on page 22 of the Brief that claim 13 further recites "logic code for receiving said remaining portion of said response from said server if no match for said digest value is found in said digest index based on said comparing step".

Examiner's Response: DRP explicitly teaches performing the comparing step for a digest value received in a response. DRP further teaches receiving said remaining portion of said response from said server if no match for said digest value is found in said digest index based on said comparing step (section 2.7, HTTP/1.1 Proxy Caching, "when the Content-ID is omitted, the proxy will not match the request and will contact server each time"; section 2.4, paragraphs 1-4, "By requesting an...to be different.").

For all of theses reasons, claim 13 is properly rejected under 35 USC 103(a).

I. Rejection of Dependent Claim 14 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 22 of the Brief that dependent claim 14 is allowable over the applied combination of DRP and He at least for the reasons discussed above with claim 10.

Examiner's Response: Claim 14 is properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 10.

(2) Appellant's Argument: Appellant asserts on page 22 of the Brief that the combination of DRP and He further fails to teach or suggest "logic code for instructing said server to terminate a connection."

Examiner's Response: As detailed in the Final Office Action, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache. DRP would inherently have to cancel the request in order to avoid the redundant download. If the request were not cancelled, then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express purpose of stopping the transmission (i.e. stopping sending the remaining portion of the response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of the claims.

For all of these reasons, claim 14 is properly rejected under 35 USC 103(a).

J. Rejection of Dependent Claim 20 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 23 of the Brief that dependent claim 20 is allowable over the applied combination of DRP and He at least for the reasons discussed above with claim 10.

Examiner's Response: Claim 20 is properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 10.

(2) Appellant's Argument: Appellant asserts on page 23 of the Brief that neither DRP nor He teaches or suggests informing a server to stop sending a remaining portion of a response".

Examiner's Response: As detailed in the Final Office Action, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache. DRP would inherently have to cancel the request in order to avoid the redundant download. If the request were not cancelled, then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express

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purpose of stopping the transmission (i.e. stopping sending the remaining portion of the response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of the claims.

(3) Appellant's Argument: Appellant asserts on page 23 of the Brief that moreover, neither reference teaches or suggests performing such informing "responsive to said logic code for comparing determining that said received digest value has a match in said digest index".

Examiner's Response: The Appellant fails to show that the combination of references does not disclose the claimed limitation. Furthermore, as discussed above with claim 10, DRP explicitly teaches performing the comparing step for a digest value received in a response. DRP further teaches receiving said remaining portion of said response from said server if no match for said digest value is found in said digest index based on said comparing step (section 2.7, HTTP/1.1 Proxy Caching, "when the Content-ID is omitted, the proxy will not match the request and will contact server each time"; section 2.4, paragraphs 1-4, "By requesting an...to be different.").

For all of theses reasons, claim 20 is properly rejected under 35 USC 103(a).

K. Rejection of Independent Claim 15 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 24 of the Brief that DRP does

not teach “logic code for sending a response to a client cache starting with a header portion”

Examiner’s Response: As discussed above with claim 1, DRP teaches sending a response to a client cache starting with a header portion. On the Content-ID Header Field in section 2.4 of DRP that the client first sends a GET request to the server. DRP further recites that “The content identifier of the returned file should be included in the HTTP reply header using the Content-ID header field”, and on HTTP/1.1 Proxy Caching in section 2.7 of DRP recites that “the server can use the vary filed in the HTTP reply which should be set to “Content-ID”... Here is an example of a reply which includes a Content-ID:

HTTP/1.1 200 OK
Vary: Content-ID
Content-ID: urn:md5: PEFjWBDv/sd9aIS9ByuX0w==

Note that the content identifier is equivalent to the claimed digest value. Therefore, DRP explicitly contemplates receiving a header portion that includes a digest value in response to a client request.

(2) Appellant’s Argument: Appellant asserts on page 24 of the Brief that DRP does not teach “said header portion including said digest value”.

Examiner’s Response: As discussed above with claim 1, DRP teaches said header portion including said digest value. DRP further recites that “The content

identifier of the returned file should be included in the HTTP reply header using the Content-ID header field”, and on HTTP/1.1 Proxy Caching in section 2.7 of DRP recites that “the server can use the vary filed in the HTTP reply which should be set to “Content-ID”... Here is an example of a reply which includes a Content-ID:

HTTP/1.1 200 OK

Vary: Content-ID

Content-ID: urn:md5: PEFjWBDv/sd9aIS9ByuX0w==

Note that the content identifier is equivalent to the claimed digest value. Therefore, DRP explicitly contemplates the header portion that includes a digest value.

(3) Appellant’s Argument: Appellant asserts on page 24 of the Brief that DRP does not teach “enabling said client cache to compare said digest value to a digest value”.

Examiner’s Response: As discussed above with claim 1, DRP teaches said enabling said client cache to compare said digest value to a digest value. On section 2.3 of DRP discloses a particular relevant embodiment, which recites in part:

Once the initial download is complete, a client can update the content by downloading a new version of the index, and **comparing it against the previous version of the index**. Because each file entry in the index has a content identifier, the client can determine which files have changed and so determine the minimal set of files that need to be downloaded in order to bring the client up-to-date.

This embodiment explicitly teaches the extracted content identifier is compared to a cached index file that previously retrieved from the same or different site in order to

avoid duplicate downloading (also see Differential-ID Header Field in section 2.5 of DRP recites “a client can use the index obtained from a server to determine what changes have occurred in a set of files”).

(4) Appellant’s Argument: Appellant asserts on page 24 of the Brief that DRP does not teach “retrieve a cached data object from said client cache if said digest value has a match in said digest index”.

Examiner’s Response: As discussed above with claim 1, DRP teaches retrieve a cached data object from said client cache if said digest value has a match in said digest index. On third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache, and when content identifiers match multiple redundant downloads can be avoided. In the case where the content identifier is not known before-hand (e.g. such as when requesting data from a new site), the content identifier would be included in the response from the server. Thus, DRP explicitly contemplates that the content identifier is retrieved from the server and compared after retrieval. In cases where the retrieved content identifier matches content already stored in the cache, the cached content would be used.

(5) Appellant’s Argument: Appellant asserts on page 24 of the Brief that DRP does not teach “send said cached data object to a client”.

Examiner’s Response: DRP discloses sending said cached data object to a client (the local cache provides the data object if the data object is already in the cache;

section 2.4, third paragraph; section 2.6 HTTP Proxy Caching).

(6) Appellant's Argument: Appellant asserts on page 24 of the Brief that neither DRP nor He teaches or suggests "upon receiving a message from said client cache to stop sending said response, stopping the sending of said response".

Examiner's Response: As detailed in the Final Office Action, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache. DRP would inherently have to cancel the request in order to avoid the redundant download. If the request were not cancelled, then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express purpose of stopping the transmission (i.e. stopping sending the remaining portion of the response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of the claims.

For all of these reasons, claim 15 is properly rejected under 35 USC 103(a).

L. Rejection of Independent Claim 16 and Dependent Claims 17-18 Under 35 U.S.C 103(a)

(1) Appellant's Argument: Appellant asserts on page 25 of the Brief that neither DRP nor He teaches or suggests "receiving from said client cache a request to stop sending a response".

Examiner's Response: As detailed in claim 1, on third paragraph of Section 2.4 of DRP discusses using content identifiers to avoid downloading file for a second time if the file is already in the cache. DRP would inherently have to cancel the request in order to avoid the redundant download. If the request were not cancelled, then the download would proceed and the invention would not function as disclosed. Nonetheless, DRP does not explicitly disclose the details of how this cancellation is accomplished. He is relied upon to teach these details. Specifically, He discloses informing a server to stop sending a remaining portion of a response. In contrast to Applicant's remarks on pages 12 and 13, the cited portion of He reads directly on this limitation. Applicant asserts that He discloses aborting a transaction but not informing the server to stop sending a portion of a response. The Examiner respectfully disagrees. As disclosed by He, the abort request is sent to the server for the express purpose of stopping the transmission (i.e. stopping sending the remaining portion of the response) and thus preventing the redundant download. The "transaction" referenced by He is the updating of a file in the cache. The server foregoes sending the file as a direct result of the received abort request. Thus, He reads directly on this limitation of

the claims.

Claims 17 and 18 are properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 16.

For all of these reasons, claims 16-18 are properly rejected under 35 USC 103(a).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jungwon Chang

Conferees:

John Follansbee

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the claims.

Claims 17 and 18 are properly rejected under 35 USC 103(a) for the same reasons cited with response to claim 16.

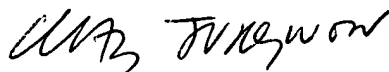
For all of these reasons, claims 16-18 are properly rejected under 35 USC 103(a).

(11) Related Proceeding(s) Appendix


No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,




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